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LABEL AND METHOD OF MAKING SAME

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An adhesive label 16 for attachment to a container and a method of forming a strip of the labels are described. The labels 16 are formed from a laminate of three strips 2, 3 and 4 of material. Strip 2 forms the face sheet (front) of the labels upon which product information may be printed and strip 4 forms a removable backing sheet. Intermediate strip 3 forms a back sheet for the labels and carries a product identification code 7 which is visible from the back of the labels. Strips 3 and 4 may be transparent to provide for the visibility of the product identification code 7 at the back of the labels.

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Complete Specification for the invention entitled:

"LABEL AND METHOD OF MAKING SAME"

The following statement is a full description of this invention, including the best method for performing it known to applicant(s):

LABEL AND METHOD OF MAKING SAME

This invention relates to labels, and in particular labels of the adhesive kind. It will be convenient to hereinafter describe the invention with reference to labels for attachment to containers for pharmaceuticals, but it is to be understood that the invention has wider application.

It is important that a container for a pharmaceutical product be correctly labelled to identify that product. A commonly employed technique for that purpose is to identify each pharmaceutical product by a unique code which is machine readable and is therefore usable as a control factor in the packaging process.

The code may be of any form. It may be a device or symbol, or it may be a series of letters, numbers, or marks, or a combination of any two or more of those, having a particular form and/or pattern. Bar codes are well known for a variety of purposes, and particularly for machine readable purposes. It will be convenient to hereinafter describe the invention in greater detail by particular reference to the use of bar codes, but it is to be understood that the invention is not limited to the use of such codes. Thus, the word "code" as used throughout the specification is to be understood as meaning anydevice or symbol, or series of marks, which is capable of providing a unique and recognisable identification.

Bar codes are commonly used as the machine readable code for pharmaceutical products. Such codes need to be distinct and well defined to properly perform their intended function, and therefore need to be of reasonable size. It is that size requirement which presents a problem in some circumstances. Government regulations require that a substantial amount of information be provided on labels for pharmaceutical products, and there may not be sufficient room for both that information and the product identification code, particularly in the case

of labels for relatively small containers.

It is an object of the present invention to provide a label, and a method of forming same, which overcomes or alleviates the aforementioned problem.

According to a first aspect of the invention there is provided a label for attachment to a container comprising, a sheet-like body having a front information bearing surface and a back surface, and a product identification code carried by said body and being visible at said back surface.

According to a second aspect of the invention there is provided a method of forming a label including the steps of, feeding a first strip of material through a printing station, applying a product identification code to a first surface of said first strip at said printing station, feeding said first strip from said feeding station to a combining station, feeding a second strip to said combining station at which the two said strips are brought into face-to-face relationship with said first surface of the first strip disposed adjacent to said second strip, and securing said strips in said face-to-face relationship by means of an adhesive to form at least part of a laminate.

A label in accordance with the invention is characterised in that the product identifying code it carries is visible at the back surface, which is the surface not normally visable when the label is applied to a product container. The code may be applied directly or indirectly to the back surface as hereinafter explained.

Adhesive labels are stored ready for use with a removable backing provided over the back surface of the label so as to protect adhesive which is applied to that surface. In accordance with one aspect of the present invention, that backing is transparent or otherwise composed so that the identifying code can be read through the backing.

The code may be applied directly to the back adhesive bearing surface of the label, in which event there are several approaches. One is to print the code

over the adhesive layer, but that may not be acceptable if the components of the code need to have a sharp, clear definition. Another approach is to leave part of the back surface free of adhesive and to apply the code to that adhesive free part. Still another approach is to have the code pre-printed on a section of sheet material which is applied to the adhesive bearing back surface of the label. In that event, the section of material will preferably be smaller than the label, and it is further preferred that it is applied to the label at a position such that a region of the back surface adhesive remains exposed on all sides of the code bearing section.

In a preferred form of the invention, the label is a laminate formed from at least two sheets, a face sheet and a back sheet. The sheets are secured together in face to face relationship by a suitable adhesive, and the outer surface of the back sheet forms the back surface of the label to which adhesive is applied for the purpose of ultimately attaching the label to a container. The code is printed or otherwise applied to the inner surface of the back sheet, and the back sheet is transparent to a degree sufficient to allow the code to be read from the back side of the label. Since the code is to be read from behind the surface to which it is applied, it will be applied to that surface in a form which is the mirror image of its form as intended to be read.

It will be convenient to hereinafter describe the invention in greater detail with particular reference to an example form of label and an example method for producing such a label. The particularity of the attached drawings and the relevant description is not to be understood as superceding the generality of the foregoing passages, or other passages, of this specification.

In the accompanying drawings:

Figure 1 is a diagrammatic illustration of a method of forming labels according to the invention,

Figure 2 is an exploded view of section II-II of Figure 1,

Figure 3 is an exploded view of section III-III of

Figure 1,

Figure 4 is a top (front of label) view from direction IV-IV shown in Figure 3,

Figure 5 is a bottom (back of label) view from direction V-V shown in Figure 6,

Figure 6 is an exploded view of section VI-VI of Figure 4, and

Figure 7 is a front view of a label according to the invention and illustrating an additional feature.

Figure 1 shows in diagrammatic form one method of forming labels in accordance with the invention. The particular method shown is for producing a series of labels in strip form, and the resulting series is ideally suited for use with an automatic label applying machine. It is to be understood however, that the invention is not limited to that use.

The series 1 of labels which emerges from the apparatus as shown in Figure 1, is formed from three strips 2, 3 and 4 of material. Each of the strips 3 and 4 are fed from separate supply sources (not shown) to form a composite strip 5 at the entry zone of the apparatus. Each strip 3 and 4 is preferably formed of a transparent material, or at least a material having sufficient transparency to enable reading of the code as hereinafter described. By way of example, the strip 4 may be composed of clear polypropylene and the strip 3 may be composed of Pearlux Clear IS8015.

In the arrangement shown, the strip 2 forms the face sheet of the labels, the strip 3 forms a code carrier back sheet of the labels, and the strip 4 forms a removable backing sheet. Adhesive is applied to the back surface 6 of the strip 3, which is the surface facing the strip 4 as shown in Figure 2. The adhesive and the material of which the strip 4 is composed, are selected so as to enable the strip 4 to be removed without disturbing the ability of the adhesive to be used to attach a label to a container.

The code 7 appropriate for the labels being formed is applied, by printing for example, to the face surface 8 of the strip 3, and that may occur at an appropriate

location, such as station 9 shown in Figure 1. Assuming the code 7 is applied by printing, suitable drying means such as an ultra violet (UV) dryer 10 may be located in the path of movement of the composite strip 5. Since the intention is to read the code 7 from the rear side of the label series 1, the form of that code as applied is the mirror image of the form of the code as intended to be read.

A supply 11 of label face material is provided at an appropriate location, and in the preferred method being described that supply 11 is formed of a composite strip composed of a label forming strip 2 and a backing strip 12. The strip 2 may be composed of any suitable material, and Mirrorcote S stock is a particular example. An adhesive is applied to the back surface 13 (Figure 3) of the strip 2, and the backing strip 12 is selected to be removable from that adhesive without disturbing the effectiveness of the adhesive.

The backing strip 12 is removed from the label forming strip 2 as shown in Figure 1, and the strip 2 is then fed so as to combine with the composite strip 5. In particular, the adhesive bearing surface 13 of the strip 2 is pressed against the code bearing surface 8 of the strip 3. The adhesive on the surface 13 is selected so that the attachment between the strips 2 and 3 is a strong attachment, and it may be a substantially permanent attachment. At least, it is not an attachment which is easily broken when the resulting label is in use on a container.

As will be evident from Figure 1, the outer surface 14 of the strip 2 forms the outer surface of the three part strip body 15 which results from the combining of the strip 2 and the composite strip 5. That surface 14 is subjected to printing and other treatment as appropriate at various stations so as to produce a series of spaced information bearing sections which are subsequently cut around to form individual labels 16 (Figure 4). The periphery of each individual label 16 is defined by a known cutting operation, and part of the strip 2 which

surrounds each such label 16 forms waste stock which can be removed in a known manner to result in the series 1 of individual labels.

Since the strips 3 and 4 are both transparent, the code 7 of each label 16 can be read from the back side of the series 1, as shown in Figure 5. It is therefore possible to conveniently check the suitability of the labels 16 for a particular container as the series 1 is being fed into or through an automatic label applying machine. The backing strip 4 is of course removed as each label 16 is being positioned for application to a respective container.

In one particular form of label 16, a removable section 17 is provided at one edge portion as shown in Figure 7. That removable section 17 may bear product identifying information which is repeated on an adjacent non-removable section 18 of the label 16. A tear or separation line 19 exists between the two sections 17 and 18. Convenient removal of the section 17 may be facilitated by performance of suitable steps during the production of the label series 1.

Adhesive desensitizing material, such as a coloured varnish, may be applied to appropriate portions of the surface 8 of the strip 3 before that strip is joined with the face strip 2. Such desensitizing may be carried out on each portion of the surface 8 which is to underline a lift-up tab 20 of the label section 17. It may be also carried out over each portion of the surface 8 corresponding to the shaded zone 21 of the label section 17, but that may not be necessary if the adhesive used on the strip surface 13 is such as to permit relatively easy separation of the section 17 from the strip 3.

It is preferred that adhesive remains on the back of the removed strip 17 so that it can be applied to a chart, for example, which relates to the person using the contents of the relevant package.

As will be evident from the foregoing description, the present invention provides a convenient solution to the problem of space on labels. It has the further

advantage of placing the product identifying code in a position such that it cannot be defaced or tampered with, and thereby adds to the security of the product identifying system.

Finally, it is to be understood that various alterations, modifications and/or additions may be introduced into the constructions and arrangements of parts previously described without departing from the spirit or ambit of the invention.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A label for attachment to a container comprising, a sheet-like body having a front information bearing surface and a back surface, and a product identification code carried by said body and being visible at said back surface.

2. A label according to claim 1, wherein said body includes a face sheet and a back sheet secured together in face-to-face relationship, and said back sheet forms said back surface.

3. A label according to claim 2, wherein said back sheet has an inner surface which is adjacent said face sheet and an outer surface which is remote from said face sheet, said outer surface forming said back surface, and said code is applied to said inner surface.

4. A label according to claim 3, wherein at least part of said back sheet is transparent to a degree sufficient to make said code visible at said back surface.

5. A label according to claim 4, wherein said back surface bears an adhesive for attaching the label to a container.

6. A label according to claim 5, wherein a removable backing is carried by said back surface, said backing being transparent.

7. A label according to any preceding claim, wherein product identifying information is applied to each of two sections of said front surface, and one of said sections is removable from said body for attachment to a member separate from said container.

8. A label according to claim 7, wherein said removable section has an adhesive bearing surface which is exposed

when the section is removed from said body and which provides a means for attaching said section to said separate member.

9. A method of forming a label including the steps of, feeding a first strip of material through a printing station, applying a product identification code to a first surface of said first strip at said printing station, feeding said first strip from said feeding station to a combining station, feeding a second strip to said combining station at which the two said strips are brought into face-to-face relationship with said first surface of the first strip disposed adjacent to said second strip, and securing said strips in said face-to-face relationship by means of an adhesive to form at least part of a laminate.

10. A method according to claim 9, wherein said first strip is transparent to a degree sufficient to render said code visible from the second surface of the first strip.

11. A method according to claim 9 or 10, wherein said first strip forms part of a composite strip which includes a backing strip secured in face-to-face relationship to a second surface of the first strip, and wherein said first and backing strips are secured by an adhesive which is releasable from said backing strip and remains on said second surface of the first strip when the backing strip is removed from the first strip.

12. A method according to claim 11, wherein said backing strip is transparent.

13. A label carrying a product information code substantially as described with reference to the accompanying figures.

14. A method of forming a label carrying a product information code substantially as described with reference

to the accompanying figures.

DATED: 29 March 1994

PEMARA CORPORATION PTY. LTD.
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A B S T R A C T

An adhesive label 16 for attachment to a container and a method of forming a strip of the labels are described. The labels 16 are formed from a laminate of three strips 2, 3 and 4 of material. Strip 2 forms the face sheet (front) of the labels upon which product information may be printed and strip 4 forms a removable backing sheet. Intermediate strip 3 forms a back sheet for the labels and carries a product identification code 7 which is visible from the back of the labels. Strips 3 and 4 may be transparent to provide for the visibility of the product identification code 7 at the back of the labels.

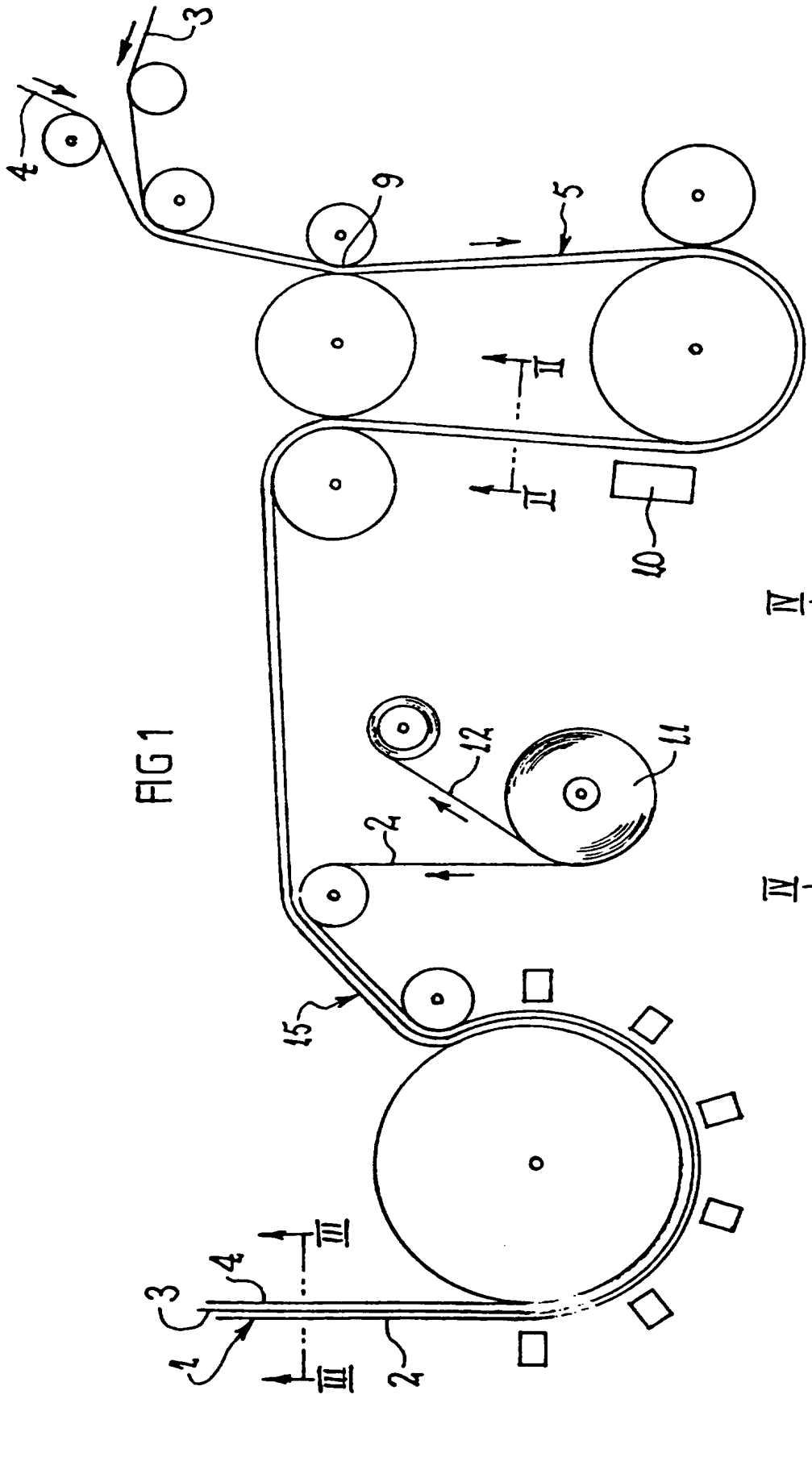

FIG 1

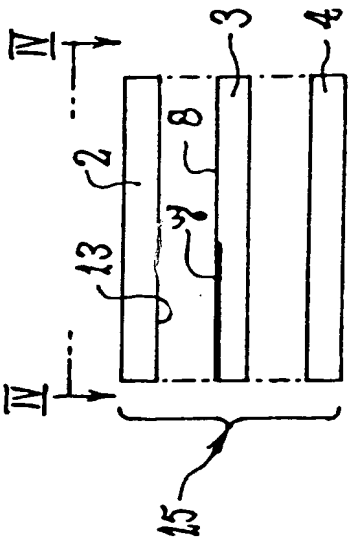

FIG 3

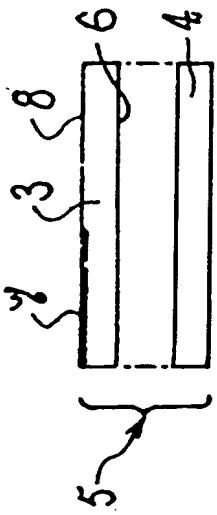

FIG 2

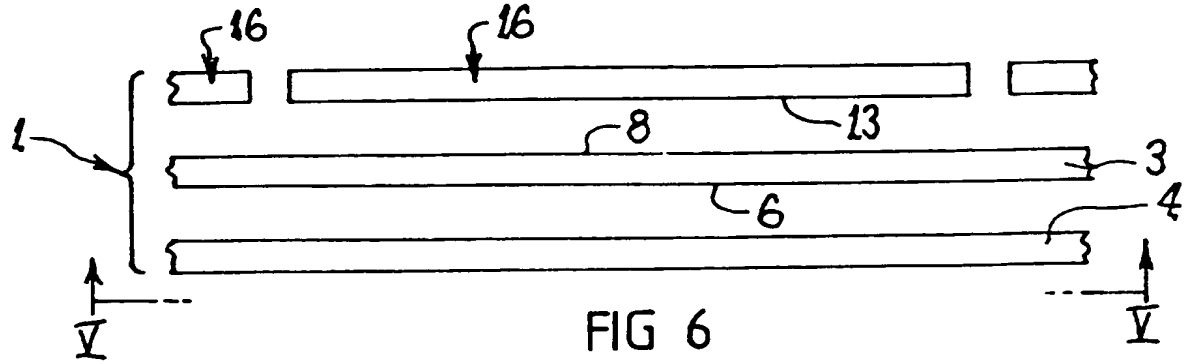

FIG 6

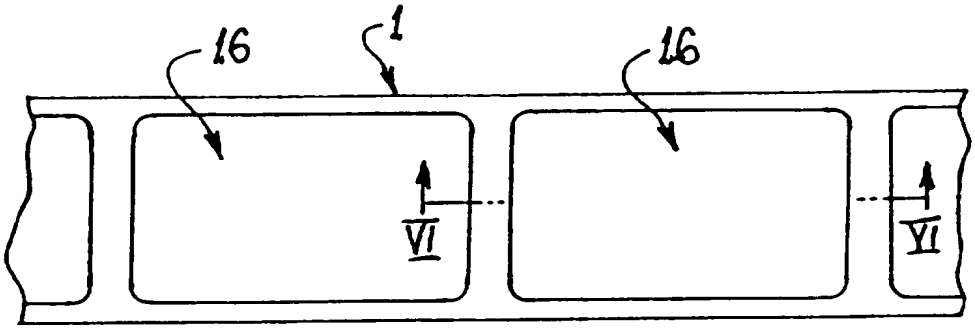

FIG 4

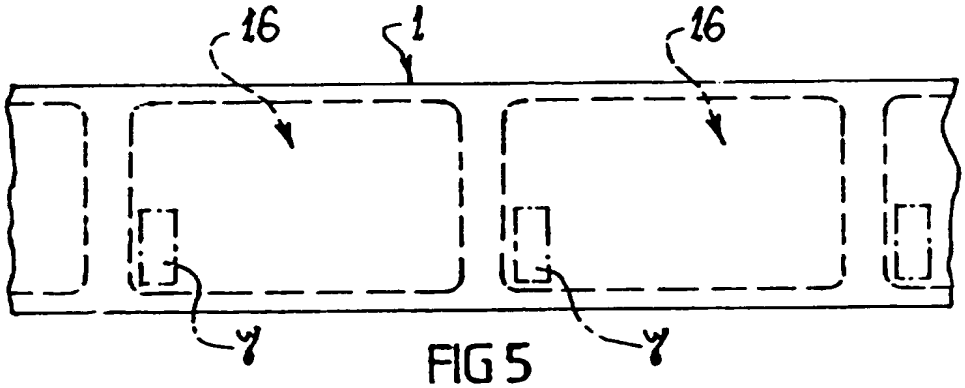

FIG 5

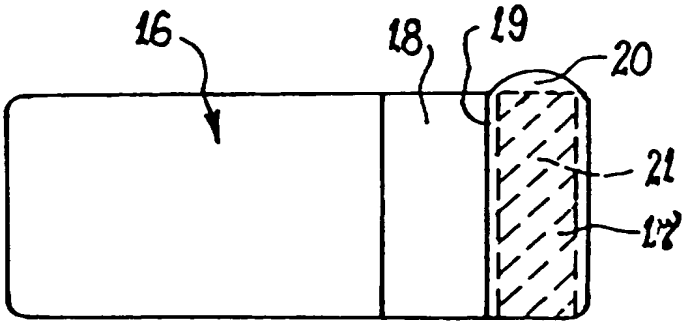

FIG 7